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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Federal-State Joint Board on	)	CC Docket No. 96-45
Universal Service	)	

To: The Commission

REPLY COMMENTS OF BELL ATLANTIC

In the attachment, the Bell Atlantic telephone companies[1] reply to the comments that were filed on the first set of issues that the Commission designated in the Further Notice.[2] The attached reply comments address the platform design of switching, interoffice trunking, signaling and local tandem components.[3]

These reply comments refer to proxy models that have been modified, or are being modified, since the Commission issued its Further Notice. It is reasonable that the developers of the models are trying to improve their products and to make them responsive to various criticisms, but it is difficult for the other parties to offer relevant comments on models that are being constantly revised. The Commission should extend

[1] The Bell Atlantic telephone companies are Bell Atlantic-Delaware, Inc.; Bell Atlantic-Maryland, Inc.; Bell Atlantic-New Jersey, Inc.; Bell Atlantic-Pennsylvania, Inc.; Bell Atlantic-Virginia, Inc.; Bell Atlantic-Washington, D.C., Inc.; Bell Atlantic-West Virginia, Inc.; New York Telephone Company; and New England Telephone and Telegraph Company ("Bell Atlantic").

[2] *See Further Notice of Proposed Rulemaking,* FCC 97-256 (rel. July 18, 1997).

[3] *See id.* at ¶¶ 121-141.

the comment period in this proceeding and establish cutoff dates for the sponsors to submit new versions of their models for evaluation by the Commission and the other parties.

The continued revisions of some models are caused, in part, by the difficulty in designing a telephone network based on a computer model containing a limited number of algorithms and inputs. In response to criticisms that the initial models did not take into account various factors that affect the design and deployment of facilities, the sponsors have continually added algorithms and assumptions in order to represent the telephone network more realistically. However, this only points out the futility of developing a computer model that will replicate the efforts of hundreds of engineers designing facilities in light of the full range of local conditions, and that will encompass all of the factors that affect the cost of deploying a network.

The Commission should allow the LECs to identify forward-looking costs of providing universal service using engineering models based on their current network characteristics and actual forward-looking costs. If the Commission adopts a proxy model, it should rely, to the greatest extent possible, on the forward-looking costs of the network using actual data about switch deployment, size and routing of interoffice facilities, etc. Algorithms and assumptions should be used only where actual data are not available, and those algorithms and assumptions should try to replicate the network as closely as possible. In this regard, the Commission should reject assumptions, inputs and algorithms, such as those used in the Hatfield model, that are deliberately designed to understate the local exchange carriers' forward-looking costs.

Respectfully Submitted,

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III.C.3 & 4 platform -- Switching and Interoffice Facilities

Response to paras. 121-122. As most respondents agree (*i.e.*, BellSouth, Ameritech, GTE, US West, Sprint), the Commission should affirm its tentative conclusion that host and remote switches should be included in any proxy model. However, most commenters recognize that it is not feasible to include host and remote switch costs in a proxy model through use of an algorithm.[4] The Hatfield model tries to gloss over the problem by ignoring remote switch costs and by using a simple cost curve for all switching costs. WorldCom proposes an algorithm for using digital line carrier systems in lieu of remote switches in certain circumstances.[5] Neither approach adequately accounts for the use of host and remote switches in the network or properly represents the difference in host and remote switching costs. As GTE points out, remote switches can be as much as 60 percent of the total.[6] While Bell Atlantic's percentage is lower, remote switches clearly are too significant a portion of switching costs to be ignored.

The sponsors of the new BCPM model (Bell South, US West and Sprint) support the inclusion of hosts and remotes.[7] Since an algorithm is not feasible,

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[4] *See, e.g.*, AT&T & MCI at pp. 5-8.
[5] *See, e.g.*, WorldCom at pp. 2-3.
[6] *See* GTE at p. 7.
[7] *See* BellSouth, US West & Sprint ("BCPM Sponsors") at Attachment 1, pp. 1-3.

they suggest use of the Bellcore Local Exchange Routing Guide (LERG) to specify the locations of host and remote switches. Bell Atlantic supports this approach. Using LERG data would move the proxy model closer to an engineering model, which would produce a more realistic view of the forward-looking costs of providing universal service.

AT&T and MCI's are incorrect in their claim that the Hatfield model captures the cost differences between stand-alone, host and remote switches. The model simply uses a cost curve for industry average switching prices per-line, with separate cost curves for large and small LECs.[8] This does not even attempt to model forward-looking switch deployment. Without the ability to develop host and remote switching, a model will not produce accurate costs for switching and interoffice facilities. Therefore, the Hatfield approach should be rejected.

Response paras. 123-132. The best solution to the issue of estimating switching costs is to use the outputs from a LEC engineering model.[9] This methodology should also be used to determine the amount of switch costs to be assigned to the line-side port and to usage. LEC engineering models currently

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[8] *See* AT&T & MCI at pp. 8-9.

[9] *See* GTE at pp. 13-14; *see also* BellSouth, US West & Sprint at Attachment 1, p. 4.

exist that develop actual forward-looking switch costs. The Commission should rely on these engineering models and not on the arbitrary results produced by proxy model algorithms. Engineering models can be used to determine the number and placement of switches and to produce input values for switch costs.

Several commenters acknowledge that the cost of adding lines to an existing switch is greater than the cost of purchasing lines for a new switch.[10] For example, the Rural Utilities Service states that added lines cost as much as 20 percent more than initially-installed lines.[11]

AT&T and MCI dismiss the differences in cost between new and growth lines as unproven, and they claim that any such differences are offset by the time value of money.[12] AT&T and MCI also assert that the costs of adding lines to an existing switch are not likely to be incurred if the LECs make reasonable purchasing decisions. However, the LECs' actual data show that the costs of adding new lines to an existing switch are higher than the costs of the original lines, and that this cost difference cannot be assumed away by the effects of inflation. Nor can the Commission accept the facile assumptions of AT&T and MCI that the LECs could avoid the higher costs of additional lines by making better initial purchasing decisions. The LECs purchase switch capacity based on

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[10] *See, e.g.,* BCPM Sponsors at pp. 5-6; SBC at pp. 4-5.
[11] *See* Rural Utilities Service at p. 3.
[12] *See* AT&T & MCI at pp. 10-12.

reasonable forecasts of demand, weighing the higher cost of adding capacity at a later time against the uncertainty of future demand and the cost of maintaining excess capacity in the interim. The Hatfield model ignores this process, because it is a static model that does not take into account the costs incurred over time as demand grows.[13] This is a significant source of inaccuracy in the Hatfield model that the Commission should not import into any proxy model that it adopts.

AT&T and MCI state that it would be improper to focus on the impact of growth on the cost of a single input or element, because "growth" costs will be lower on a unit basis than "new" costs for many other types of costs. This ignores the fact that the line cost is the predominant cost element of the switch for the USF. Also, the difference in the vendor discount between initial switch installations and additions to existing switches affects all items purchased to add capacity to a switch, not just the additional costs of line ports. Thus, a model that does not capture the costs of adding capacity to an existing switch will significantly underestimate the LECs' forward-looking costs.

Response to paras. 139-141. The comments demonstrate that the Hatfield model does not produce accurate costs for interoffice trunking, signaling, and local tandem functions. Two of the deficiencies that Bell Atlantic pointed out in its

[13] *See* GTE at p. 7.

original comments still exist. The Hatfield model does not include the cost of the umbilical between the host and remote switch, and the cost of Local Number Portability is not included in Hatfield or the new BCPM. GTE points out numerous deficiencies in the Hatfield model, including a failure to account for geographic obstacles and rights of way, unrealistic estimates of route miles, lack of diversity routing for sites that are not on SONET rings, and lack of tandem-to-tandem trunks.[14] Clearly, no carrier could actually build a functional local network according to the criteria and output of the Hatfield model. In no circumstances should the Commission rely upon the Hatfield estimates of interoffice costs.

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[14] *See* GTE at pp. 15-24.

CERTIFICATE OF SERVICE

I hereby certify that copies of this pleading were mailed this date, first class postage prepaid, upon the persons listed on the attached service list.

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Dated: August 18, 1997

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